



Outdoor/Impact-Resistant Version



Pressurized Version

Shown with mount for illustration purposes only; mount sold separately

## System Overview

Vicon has enhanced the proven high-performance design of the Surveyor series of dome cameras with high definition (HD) video. The camera's superb HDTV quality video, low light capabilities and durability deliver a superior pan, tilt and zoom solution to customers. The new design conforms to the ONVIF (Profile S Open Network Video Interface Forum) specification, providing interoperability between network video products from different manufacturers. The camera delivers resolutions up to 1080P (1920 x 1080).

The Surveyor MKII supports high-profile H.264 and M-JPEG compression as well as multi-stream format capabilities to deliver bandwidth efficient high quality video. With its 30x zoom, the camera can read a license plate 900 ft away. Electronic Image Stabilization compensates for vibration or movement of the camera, automatically minimizing blur. Defog and image overlay are also supported.

The Surveyor MKII can be programmed directly through a standard Web Browser. The advanced scheduling capabilities allow users to automate camera positioning based on schedules and alarm inputs. Programmable privacy masks are used to conceal user-defined areas. Limits to the pan and tilt of the unit can also prevent operators from viewing restricted areas. Titles can be programmed in the unit to provide the operator with additional graphical information when controlling the camera (examples: time/date titles and compass headings).

## Product at a Glance

- ▶ HD 1080p resolution at 30 images per second
- ▶ Integrated camera module with 30X optical zoom
- ▶ WDR day/night camera; low light capability
- ▶ Electronic Image Stabilization (EIS)
- ▶ Dual encoding generates simultaneous H.264 or M-JPEG video streams
- ▶ Powered by 24 VAC and PoE++
- ▶ ONVIF (Profile-S) interface provides interoperability with open platform solutions
- ▶ High-speed 360° continuous pan
- ▶ Advanced titling features
- ▶ Scheduling of tours and presets

## Construction and Installation

Vicon has a variety of hardware available to install the Surveyor MKII in almost any environment. A pendant configuration is available, with a standard, pressurized, or high-impact housing. The pressurized and impact resistant versions of the lower dome are constructed of impact-resistant, polycarbonate; the impact-resistant version lower domes are secured by tamperproof screws.

The standard and high-impact units are IP66 rated; the pressurized version of the camera provides IP67 protection. These units have built-in heater/blower units that ensure operation in a temperature range of -40° to 132° F (-40° to 55° C).

### Network Video Transmission

<b>Compression:</b>	H.264, M-JPEG.
<b>Video Streams:</b>	10 concurrent sessions maximum.
<b>Effective Resolution/ Maximum Resolution:</b>	2 megapixels/1920x1080 @ 30 fps.
<b>Programming Interface:</b>	ONVIF Profile S, NTCIP.
<b>Protocols:</b>	IPv4/IPv6, HTTP, HTTPS, RTSP/RTP, RTCP, DNS client, FTP, SMTP, PPPoE, UPnP, TCP, DHCP, UDP, NTP, DDNS, IGMP, ICMP, ARP, SNMP (v3), TLS, SSL, QoS, 802.1X

### Electrical

<b>Input Voltage:</b>	PoE++; 18-30 VAC. Will operate within spec on voltages up to 32 VAC. For voltages between 30-32 VAC, use a Class 3 indoor/dry or outdoor/wet power supply.
<b>Maximum Operating Distances:</b>	Refer to Table.
<b>Power Consumption: (includes heater)</b>	37 W maximum.
<b>Fuse:</b>	One, 3 A, 60 V.
<b>Certifications:</b>	UL; CE; FCC Class A.

### Camera and Optics

Feature	1080p (2 MP) SN230
<b>Image Device:</b>	1/3-in. CMOS progressive scan
<b>Zoom:</b>	30x optical; 12X digital
<b>Sensitivity:</b>	Color: 0.4 lux @f/1.4, 1/30s, AGC gain 48dB; 0.1 lux @f/1.4, 1/8s, AGC gain 48dB. B&W: 0.01 lux @f/1.4, 1/8s, AGC gain 48dB.
<b>Synchronization:</b>	Internal
<b>Digital Slow Shutter:</b>	Yes
<b>Gain Control:</b>	Automatic/Manual
<b>Backlight Compensation:</b>	On/Off, selectable
<b>Iris Control:</b>	Automatic/Manual
<b>Wide Dynamic Range:</b>	~110 dB. WDR/WDR AD/Off, selectable
<b>FNR:</b>	Off/Manual/Auto/1-3 levels adjustable
<b>Video Focus:</b>	Automatic/Manual (near-far)
<b>White Balance:</b>	Automatic//Sodium/Mercury/Manual
<b>Shutter Speed:</b>	Automatic/Manual: 1/2 - 1/30,000 sec
<b>Signal-to-Noise Ratio:</b>	55 dB
<b>Focal Length:</b>	4.4 - 132 mm
<b>Aperture:</b>	f/1.4 (wide) - f/4.6 (tele)
<b>Angle of View:</b>	Horizontal: 63.4° (wide), 2.3° (tele)
<b>Audio:</b>	G.711-u; 1 input, linear level, 1k ohms impedance; 1 output, linear level, 600 ohms impedance
<b>Built-in Storage:</b>	Embedded SD card slot; SD card up to 32G recommended (customer-supplied)

Data Sheet Number: V282-00-01

Vicon Data Sheet Part Number: 8009-7282-00-01  
Specifications subject to change without notice.

Dated: 11/2016

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## Operational

<b>Drive Type:</b>	Electrical motorized pan and tilt with electronic control.
<b>Pan View:</b>	360° continuous.
<b>Tilt View:</b>	-2.5 to 90°.
<b>Pan Speed:</b>	400°/sec, max.
<b>Tilt Speed:</b>	150°/sec, max.
<b>Preset Capability:</b>	255 individually programmable.
<b>Preset Solving Speed:</b>	1 second nominal.
<b>Preset Accuracy (Pan and Tilt):</b>	0.5° maximum.
<b>Tour Capabilities:</b>	6 tours available. 14 programmable events per tour. Events may be preset positions (1-32), patterns/autotours (1-4), autopan (1-4).
<b>Autotour Capabilities:</b>	4 autotours (patterns) available.
<b>Alarm Capabilities:</b>	4 alarm inputs, individually programmable.
<b>Alarm Output:</b>	1 relay, momentary or latching.
<b>Control Display:</b>	Web browser.
<b>Privacy Masks:</b>	4. Programmable, zoom-scalable.
<b>Motion Detection:</b>	4.
<b>Scheduling:</b>	Real-time clock allows scheduling of up to 32 events, including presets, relays, alarms, tours or autotours.
<b>Multi-Language Menu:</b>	English.
<b>Screen Titling Capabilities:</b>	Programmable On/Off for camera name, time/date, etc. Pressurized version only: pressure, humidity, and temperature. Compass/azimuth, compass headings.
<b>Defog:</b>	Supported.
<b>Image Overlay:</b>	Supported.
<b>Image Mirror:</b>	Selectable: H-mirror/V-mirror/HV-mirror/Off.
<b>Image Freeze:</b>	Yes.
<b>FNR:</b>	Selectable: Off/manual/Auto/1-3 levels adjustable.
<b>Other Image Settings:</b>	Sharpness, slow AE, luminance mode, enhanced level, reduction level.

## Environmental

<b>Operating Temperature Range:</b>	-40 to 132° F (-40 to 55° C) in accordance with NEMA 2.1.5.1 STD2 (pending).
<b>Operating Humidity Range:</b>	100% relative, non-condensing.
<b>Storage Temperature Range:</b>	-40 to 150° F (-40 to 65° C).
<b>Storage Humidity Range:</b>	0 to 90% relative, non-condensing.
<b>Rain/Wind:</b>	Heavy rain up to 4 in./hr at winds up to 90 mph, when mounted on standard Vicon wall mount. Pressurized: Tested at sustained winds up to 120 mph with gusts up to 150 mph.

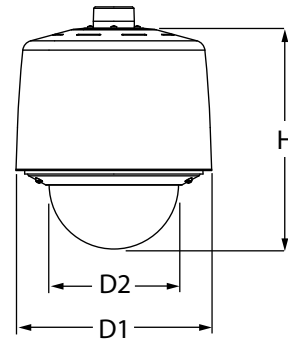
## Maximum Power Cable Distances

Wire Size (AWG) Annealed Copper Wire	Distance ft (m)	
	Indoor	Outdoor
	24 VAC	24 VAC
20	192 (57)	87 (27)
18	307 (93.6)	140 (43)
16	489 (149)	222 (68)
14	775 (236)	352 (107)
12	1235 (376)	561 (171)

## SURVEYOR MKII

### Outdoor/High-Impact Pendant

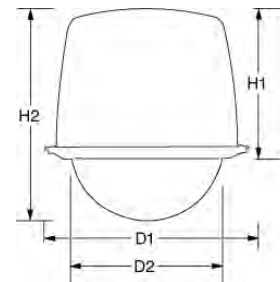
- Die-cast aluminum enclosure, molded plastic sunshield
- Clear acrylic/vandal-proof polycarbonate dome
- Standard 1-1/2 inch male NPT fitting or metric equivalent
- Unit Diameter (D1): 9.0 inches (228 mm)
- Lower Dome Diameter (D2): 5.9 inches (150 mm)
- Height (H): 10.3 inches (262 mm)
- Weight: 7.7 lb. (3.5 kg)
- Compliance: IP66, NEMA 4X; NEMA TS2-2003 V02.06;  
Impact-Resistant version only: IK10++ (50 joules) tested in  
accordance with EN 6008-2-75 Eh Pendulum Hammer Test



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### Pressurized

- Die-cast aluminum enclosure; molded plastic sunshield
- Clear polycarbonate dome
- Standard 1-1/2 inch male NPT fitting or metric equivalent
- Unit Diameter (D1): 9.5 inches (241 mm)
- Lower Dome Diameter (D2): 6.0 inches (152 mm)
- Height (H2): 10.2 inches (259 mm); (H1): 7.3 in. (185 mm)
- Weight: 12.0 lb. (5.4 kg)
- Compliance: IP67; NEMA TS2-2003 V02.06;  
IK10++ (50 joules) tested in accordance with  
EN 6008-2-75 Eh Pendulum Hammer Test










### Surveyor MarkII Models

Resolution	Optics	Outdoor Environment		
		Outdoor Dome	High-Impact Dome	Pressurized Dome
1080p (2 MP)	30X	SN230W	SN230M	SN230P

### Accessories

#### Mounts

	Description	Model Number
	Indoor or outdoor wall mount	SVFT-UWM
	Indoor or outdoor ceiling mount	SVFT-UCM
	Indoor or outdoor short wall mount	SVFT-WM
	Outdoor parapet mount	SVFT-UPM-1

	Description	Model Number
	Wall mount for pressurized dome	SVFT-PR-WMA
	Pipe adapter for pressurized dome	SVFT-PR-P
	Soffit mount for outdoor and impact-resistant dome	SVFT-SOF

### Power Supplies

Description	Model Number
24 VAC output, 120 VAC input, single-channel	S24WPS-1
24 VAC output, 230 VAC input, single-channel	S24PS-230
24/28 VAC output 120/230 VAC input, single-channel	S28WPS-1/ S28WPS-230
24/28 VAC output 120 VAC input, four-channel	V2448-175PS
24/28 VAC output 120 VAC input, eight-channel	V248-300PS
28 VAC output 120 VAC input, sixteen-channel	V2416-600PS